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Do Cheap Food and Cheap Credit Help to Feed the Poor in Less Developed Countries?

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An important objective of U.S. foreign policy has been to improve the welfare of the poor in less developed countries (LDCs). Adequate and low cost food supplies are a key element of this policy. It is felt that reduction of poverty will make the maintenance of stable democratic regimes in LDCs more likely. The purpose of this paper is not to question the link between reduced poverty in LDCs and U.S. national security interests but rather to examine whether cheap food and cheap credit as a means to increase food supplies have been appropriate instruments to reduce poverty in LDCs.

An obvious way to help the poor in LDCs would seem to be the provision of additional food supplies, and this was an especially expedient policy during the 1960s because of the large food surpluses produced by U.S. agriculture. The Public Law 480 Food For Peace program was approved to provide additional food for the poor in LDCs; however, the program did not take into account the longer run impact of cheap food (food prices below market equilibrium clearing levels) on incentives for food production in LDCs. The provision of cheap food imports may not only reduce farm prices and hence the incentive to produce food but may also depress incomes in the agricultural sector where the vast majority of the poor in LDCs are located. While the possibility of perverse incentives was recognized in some agricultural economics literature as early as the 1960s, it was not until the world food production shortages of the 1970s that the provision of cheap food by the U.S. to LDCs was drastically

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curtailed. The first section of the present paper will not only elaborate these arguments but will also analyze the extent to which many LDCs may have continued to follow ill conceived policies of low prices for agricultural products in the wake of the Public Law 480 Food For Peace program.

The depletion of U.S. food surpluses, and perhaps the criticism of P.L. 480, has led to a shift in emphasis in U.S. policy in the 1970s toward encouraging agricultural production in LDCs. One of the key elements in this new strategy has been the provision of cheap credit (credit at subsidized, low rates of interest) in an attempt to promote agricultural production. Furthermore, it is widely accepted that the U.S. has abundant capital which can readily be injected as cheap credit in rural financial markets of LDCs. In this new strategy it was argued that subsidized credit could be targeted to the poorest farmers in order to improve the distribution of income as well as augmenting agricultural output.

The second section of the present paper will argue that U.S. policies of subsidized, low interest rate credit for the agricultural sectors of LDCs may have even fewer benefits and more pernicious side effects than the Food For Peace programs pursued earlier. The last section of the present paper contains the conclusions and will argue that neither cheap food nor cheap credit accomplished their objectives and that both had more negative effects than had been anticipated.

Cheap Food

The U.S. Agricultural Trade Development and Assistance Act of 1954 (also known as Public Law 480 or Food For Peace) under which nearly $29 billion of food assistance has been provided to recipient countries on a concessional

basis has been a politically popular program in the U.S. as well as in the recipient countries. Within the U.S., food assistance has had strong support among farm groups because it represents an important outlet for farm products and among consumer groups because food assistance to the poor and hungry of the LDCs has appealed to their humanitarian values. In addition, food aid is popular because it is thought to be additional aid that would not otherwise be available from the donor country.

There are also many arguments in favor of food aid in terms of the impact on the recipient countries. One of these arguments is that food aid can have a favorable impact on the poorest of the poor through distribution at concessional prices or through food for work projects. Another argument is that food aid can provide financing for government develpment projects which promote economic growth and increased self reliance in the recipient country. It is also widely argued that food aid can assist the recipient country to accumulate inventories of basic foods which can be used to stabilize farm and consumer prices and to assure adequate food supplies.

The Agricultural Trade Development and Assistance Act of 1954 as amended, states that it is U.S. policy "to expand international trade; to develop and expand export markets for U.S. agricultural commodities; to use the abundant agricultural productivity of the United States to combat hunger and malnutrition and to encourage economic development in the developing countries, with particular emphasis on assistance to those countries that are determined to improve their own agricultural production; and to promote in other ways the foreign policy of the United States."1/ Inconsistencies in the above objectives are readily apparent since the expansion of export markets for U.S.

1/ Agricultural Trade Development and Assistance Act of 1954, as amended Public Law 480,83d Congress, Washington, D.C., 1979, p. 1.

agricultural commodities may directly conflict with efforts to improve agricultural production in developing countries. P.L. 480 as amended contains four titles. Title I covers concessional sales; Title II covers the donations and disaster relief; Title III, food for development and barter; and Title IV contains the general provisions.

Title I sales, the most important of the four titles, are dollar credit sales or convertible local currency credit sales made to foreign importers, foreign governments, or private trade entities. Even though Title I sales are based upon world market prices, the sales are considered "concessional" because the payment terms are more favorable than those available under commercial export sales.2/ These more favorable terms are the amount which can be financed (up to 95 percent of the sale), the length of the total repayment (up to 40 years), the grace period (up to 10 years) and the relatively low interest rates charged (2 to 3 percent per year). The actual sales are conducted by private U.S. suppliers who obtain the financing and the commodity for export through the Commodity Credit Corporation (CCC), a corporate body within the U.S. Department of Agriculture.

Title I sales are restricted to "friendly countries" and the U.S. must take reasonable precautions to assure that sales under this title will not unduly disrupt world prices of agricultural commodities or the normal patterns of commercial trade with friendly countries. Such a restriction, of course, becomes very difficult to enforce since it is likely that Title I sales will reduce commercial imports of the recipient country from the U.S. or other

2/ The amount of the "concession" in P.L. 480 sales has been the object of much research and debate. Pinstrup-Andersen and Tweeten [1971] found that pricing of food aid on the basis of prevailing export prices considerably overstates the actual value to the recipient countries and causes unduly high repayment obligations.

countries. Another restriction is that at least 75 percent of the food aid provided under this title should be delivered to countries which meet the International Development Association poverty criterion and which are affected by insufficient food for immediate requirements from either domestic production or commercial imports.

Title II includes agricultural commodity grants to nonprofit voluntary U.S. relief agencies such as CARE (Cooperative for American Relief Everywhere), international programs such as the World Food Program, and government to government donations. Title II commodities may be used to meet famine, to combat malnutrition, to promote economic and community development, and for nonprofit school lunch and preschool feeding programs. In addition to the cost of the commodity, the CCC can pay for packaging, enrichment, preservation, processing, and transportation to the foreign destination for all Title II commodities.

The Food for Development Program and barter are included in Title III. The objective of assistance under this title "shall be to increase the access of the poor in the recipient country to a growing and improving food supply through activities designed to improve the production, protection, and utilization of food, and to increase the well-being of the poor in the rural sector of the recipient country."3/ Under the Food for Development program, the funds accumulated from the local sale of Title I commodities can be credited to repay the loan if the funds are used for activities such as rural development, health services, or population planning. Under the barter provisions of Title III, private U.S. firms under contract to the CCC were able to acquire foreign produced strategic materials of national security interest for U.S.

3/ Agricultural Trade Development and Assistance Act of 1954, as amended Public Law 480,83d Congress, Washington D.C., 1979, p. 18.

Government stockpiles. The barter program was suspended in July 1973 at a time when world supplies of some major agricultural commodities were relatively scarce and world prices were at record levels.

Title IV contains the general provisions of the Act including the definition of what is an agricultural commodity and some added items such as the farmer-to-farmer assistance program and the research and contract agreements with educational institutions in the recipient countries.

Since P.L. 480 was signed into law in 1954, some important changes in emphasis have been made through amendments to the act. The 1966 amendment made two such changes. P.L. 480 as passed in 1954 stated that it was, "the policy of Congress... to make maximum efficient use of surplus agricultural commodities in furtherance of the foreign policy of the United States... by providing a means whereby surplus agricultural commodities in excess of the usual marketings of such commodities may be sold through private trade channels..."4/ The 1966 amendment changed this primary emphasis of the Act from disposal of surplus U.S. agricultural products to an emphasis on meeting humanitarian food needs through the use of the abundant agricultural productivity of the U.S. and encouraging long term agricultural development in the recipient countries. The 1966 amendment also changed the Act so that it would make a stronger contribution to the U.S. balance of payments position. This was accomplished by initiating Title I dollar credit sales and convertible local currency credit sales and requiring that Title I sales for local currency be phased out by 1971. The principal motive for passage of the 1966 amendment reflects changes in economic conditions of the U.S. during the late

4/ U.S. Department of Agriculture. P.L. 480 Concessional Sales, Economic Research Service. Foreign Agricultural Economic Report No. 142, Washington, D.C., December, 1977, p. 3.

1950s and early 1960s rather than changes in the LDCs. Both changes were convenient because the large agricultural surpluses had been depleted and because the U.S. balance of payments needed strengthening.

With the Bellmon amendment of 1977, the issue of the disincentive effects of cheap food first appeared in the language of the Act. This amendment states that "No agricultural commodity may be financed or otherwise made available under the authority of this Act except upon a determination by the Secretary of Agriculture that... the distribution of the commodity in the recipient country will not result in a substantial disincentive to or interference with domestic production or marketing in that country."5/ The Bellmon amendment was passed in response to increased U.S. criticism of food aid because the disincentive effect on the recipient countries had been ignored. It is interesting to note that the Bellmon amendment states a general policy which has certainly encountered many problems of interpretation each time that the Secretary of Agriculture has been required to make a determination of what is a substantial disincentive. Furthermore, it is readily apparent that the Secretary of Agriculture faces a fundamental conflict of interest in making such a determination given that his constituency (U.S. producers) is always more interested in increased farm product sales rather than the impact of such sales on the recipient country.

As shown in Table 1, total P.L. 480 assistance equalled nearly $29 billion from July, 1954 through September, 1979. Of the $29 billion, slightly over $20 billion were Title I sales, of which about $12 billion were local currency sales and $8 billion were long term dollar credit sales and convertible local currency sales. Title II donations comprise most of the remaining $9 billion

5/ Agricultural Trade Development and Assistance Act of 1954, as amended Public Law 480,83d Contress, Washington, D.C., 1979, p. 23.

Table 1: Value of U.S. Farm Products Shipped Under Public 480 Compared With Total Exports of U.S. Farm Products, July 1954 through September 30, 1979*

Year	Public Law 480							
	Title I		Title II					
	Sales for Local Currency 1/	Long-term Dollar and Convertible Local Currency Credit Sales 2/	Government to Government Donations and World Food Programs 3/	Donation through Voluntary Relief Agency 4/	Barter for strategic materials 5/	Total P.L. 480	All Total Agricultural Exports	P.L. 480 Exports as a Percent of Total Agricultural Exports
	----Million dollars----							
1955.....	73	---	52	135	125	385	3,144	12
1956.....	439	---	63	184	298	984	3,496	28
1957.....	908	---	51	165	401	1,525	4,728	33
1958.....	657	---	51	173	100	981	4,003	24
1959.....	724	---	30	131	132	1,017	3,719	27
1960.....	824	---	38	105	149	1,116	4,519	24
1961.....	951	---	75	146	144	1,316	4,946	26
1962.....	1,030	19	88	160	198	1,495	5,142	29
1963.....	1,088	57	89	174	48	1,457	5,078	29
1964.....	1,056	48	81	189	43	1,418	6,068	23
1965.....	1,142	158	55	183	32	1,570	6,097	26
1966.....	866	181	87	180	32	1,346	6,747	20
1967.....	803	178	110	157	23	1,271	6,821	19
1968.....	723	300	100	150	6	1,280	6,383	20
1969.....	346	427	111	154	1	1,039	5,826	18
1970.....	309	506	113	128	---	1,056	6,718	16
1971.....	204	539	138	142	---	1,023	7,753	13
1972.....	143	535	228	152	---	1,058	8,046	13
1973.....	6	661	159	128	---	954	12,902	7
1974.....	---	575	147	145	---	867	21,293	4
1975.....	---	762	148	191	---	1,101	21,578	5
1976.....	---	650	65	192	---	907	22,147	4
July-Sept. 1976...	---	316	18	51	---	385	5,355	7
Oct.-Sept. 1976-77	---	760	92	250	---	1,102	23,974	4
Oct.-Sept. 1977-78	---	739	112	223	---	1,074	27,291	4
Oct.-Sept. 1978-79	---	748	126	263	---	1,137	31,975	4
Total	12,292	8,160	2,427	4,253	1,732	28,864	265,481	11

--- = Not applicable. Details may not add to totals due to rounding

* Oct.-Sept. 1976/77 is the beginning of the new fiscal year. No comparison will be made for Oct.-Sept. 1975/76 year.

1/ Authorized by Title I, P.L. 480.

2/ Shipments under agreements signed through Dec. 31, 1966, authorized by Title IV, P.L. 480. Shipments under agreements signed from Jan. 1, 1967, authorized by Title I, P.L. 480, as amended by P.L. 89-808.

3/ Authorized by Title II, P.L. 480. Includes World Food Program.

4/ Authorized by Section 416 of the Agricultural Act of 1949 and Section 302, Title III, P.L. 480 through Dec. 31, 1966. Authorized by Title II, P.L. 480, as amended by P.L. 89-808, effective Jan. 1, 1949.

5/ Authorized by Section 303, Title III, P.L. 480, and other legislation. Includes some shipments in exchange for goods and services for U.S. agencies before 1963.

Source: Food for Peace 1979 Annual Report on Public Law 480. USDA, Washington, D.C.

in total P.L. 480 assistance. P.L. 480 exports have exceeded $1 billion annually nearly every year since 1954 which demonstrates that this has been an important market for U.S. farm products. That importance reached a peak in 1957 when P.L. 480 exports equally 33 percent of total agricultural exports and then declined to the 25 percent level in the 1960s. During the 1970s, P.L. 480 exports decreased in dollar value, especially if one considers the effects of inflation, and relatively from 13 percent of total agricultural exports to 4 percent in the late 1970s. There are two factors which largely explain this decreasing importance of P.L. 480. Because of poor weather in major producing countries, the U.S. and world food supplies decreased significantly in 1972 and 1973 causing world food reserves to decline to low levels and world prices to reach record high levels. High world market prices for food products caused a change in U.S. agricultural exports from concessional sales of surplus products toward commercial sales of a scarcer more valuable product in world markets. In addition, world petroleum prices increased at extremely rapid rates during this same period so that the U.S. had no incentive to sell food at concessional prices when more commercial sales were needed to pay for a rapidly increasing oil import bill.

Not all farm products have benefitted equally from P.L. 480 exports; in fact, two products, wheat and wheat flour, represent over 46 percent of the total value of all P.L. 480 exports from July, 1954 through September, 1979 (Table 2). Other important commodity exports under P.L. 480 include rice, soybean oil, non-fat dry milk and corn. A closer look at some of these commodities reveals that P.L. 480 has been the principal export market for wheat, rice, soybean oil and non-fat dry milk. P.L. 480 wheat exports represented over 60 percent of total wheat exports in the 1950s and 1960s, but declined to

Table 2: Value of Public Law 480 Exports by Major Commodities and Total, July 1, 1954, through September 30, 1979

Commodities	Total Public Law 480 (Billions of Dollars)	Percent of Total P.L. 480 Exports
Wheat	11.4	39.6
Wheat Flour	2.1	7.3
Rice	3.1	10.8
Soybean Oil	1.9	6.6
Non-fat dry milk	1.4	4.8
Corn	1.2	4.2
All other commodities	7.7	26.7
Total	28.8	100.0

Source: Food for Peace 1979 Annual Report on Public Law 480. U.S. Department of Agriculture, Washington, D.C.

about 16 percent in the 1970s. P.L. 480 rice exports accounted for over 45 percent of total rice exports in the 1950s and 1960s and then decreased to about 30 percent in the 1970s.

The distribution of P.L. 480 assistance by major recipients demonstrates that the countries have been mostly Asian, some Latin American and even a few European (Table 3). Seven countries (India, South Korea, Pakistan, Egypt, Indonesia, South Vietnam and Yugoslavia) have each received over $1 billion of P.L. 480 assistance. Egypt has been the largest recipient of P.L. 480 assistance since 1975, while other major recipients have been India, Indonesia and Bangladesh. Significant reductions in food aid to South Korea, Pakistan, South Vietnam, Brazil, Israel, Turkey, Morocco, Taiwan, Tunisia, Sri Lanka, Cambodia and Colombia have been made since 1975. The distribution of food assistance by major recipients suggests that a mixture of economic and national security interests have been important selection criteria.

The above information clearly demonstrates that substantial amounts of food aid have been provided to LDCs; however, the impact of this food aid on the recipient countries has not been clearly demonstrated. There is a long history of controversy regarding the effect of food aid on prices, domestic output and food policy in recipient countries. When these effects are considered, the question of whether cheap food helps to feed the poor in LDCs becomes much more difficult to answer.

More than twenty years ago Schultz [1960] raised the question of the disincentive effects on prices and output in recipient countries caused by P.L. 480 shipments. Fisher [1963] developed a framework which demonstrates that a change in production in the recipient country in response to increased food aid depends on the price elasticities of supply and demand in that

Table 3: Major Recipients of Public Law 480 Aid, By Selected Periods and Total, Fiscal Years July 1, 1954 through September 30, 1979[a/]

Country	1954-64	1965-74	1975-79	Total
		-- Million Dollars --		
India	2,084	2,933	752	5,769
South Korea	493	1,034	385	1,912
Pakistan	736	906	248	1,890
Egypt	690	222	924	1,836
Indonesia	212	757	542	1,511
South Vietnam	130	1,307	27	1,464
Yugoslavia	783	238	--	1,021
Brazil	501	385	11	897
Israel	289	375	52	716
Bangladesh	--	66	634	700
Turkey	452	218	4	674
Spain	604	18	--	622
Poland	535	33	--	568
Morocco	97	264	110	471
Italy	403	3	--	406
Taiwan	237	158	--	395
Chile	128	112	149	389
The Phillippines	89	167	124	380
Japan	367	--	--	367
Tunisia	96	200	64	360
United Kingdom	342	11	--	353
Sri Lanka	56	101	45	302
Cambodia	--	207	91	298
Colombia	118	131	30	279
Portugal	59	48	59	266
Greece	202	43	--	245
West Germany	212	3	--	215
Peru				
World Total	11,692	11,463	5,709	28,864

a/ Includes all countries which directly received over $200 million under all titles of P.L. 480 -- sales, grants, and barter -- during fiscal years July 1954 through September 30, 1979.

Source: Annual Reports on Public Law 480 for 1955, 1964, 1974 and 1979, and U.S. Agricultural Exports under Public Law 480, ERS Foreign Report No. 395, U.S. Department of Agriculture, 1974.

country and the ratio of total demand to domestic supply. The price reduction caused by P.L. 480 shipments increases as the price elasticities of demand and supply becomes more inelastic and the farm output reduction increases as the price elasticity of supply becomes more elastic in the recipient country.

Based on this framework, considerable empirical work has been completed to estimate the sign and magnitude of these elasticities in developing countries. Initially most of the estimates of the aggregate supply elasticity were generally low and positive, on the order of 0.2, so it was argued that P.L. 480 shipments affect domestic output only slightly even though food prices may decrease.6/ However, by lowering prices for food grains, the P.L. 480 shipments cause producers to shift resources from production of food grains to the production of non-food products. This shift results in a change in the composition of farm output but total farm production does not change because of the highly inelastic aggregate farm supply. In this situation the P.L. 480 food imports may simply substitute for food which was not produced in the recipient country. Later, the actual magnitude of the aggregate supply elasticity in LDCs was questioned because the estimates tended to vary considerably by country, time period and research methodology. Recently Peterson [1979] estimated that the aggregate agricultural supply elasticity for twenty seven LDCs is highly elastic, in the range of 1.25 to 1.66, which differs markedly from the earlier widely held view that the supply elasticity was low and highly inelastic. The Peterson estimate, of course, implies that the disincentive effect of P.L. 480 shipments on food production in the recipient country is much greater than what has been widely accepted among policymakers and researchers.

6/ See Maxwell and Singer [1970], p. 230-231 for a discussion of these estimates.

A related issue is the effect of food aid on incomes in the agricultural sector where a vast majority of the poor in less developed countries are located. Although food aid increases the incomes of those persons who receive the food, this gain may be offset by the absolute fall in farm income in rural areas caused by the decrease in food prices due to the food assistance. For example, the results of earlier studies of the effects of P.L. 480 in Colombia by Goering [1962], Goering and Witt [1963], and Adams et al., [1963] found little or no effect on domestic production or prices. However, a later study by Dudley and Sandilands [1975] found that both production and income of Colombian farmers declined because of declining wheat prices caused by P.L. 480 wheat shipments and that Colombia imported 1,400,000 tons of wheat which could have been produced domestically at a lower opportunity cost. Lipton [1977] analysed the impact of food aid on farm income in India and quotes an unidentified report from the U.N. office in Bangkok that the immediate loss to Indian farmers in the year of release, before they had time to compensate by switching to other crops, was equivalent to 1.9 percent of farm income between 1957-63, 7.7 percent in 1964-67 and 1.2 percent in 1968-69.

More difficult to analyze is the effect of food aid on the attitude and policies of decisionmakers toward the agricultural sector in the recipient country. That is, does the possibility of cheap food from P.L. 480 contribute to a food and agricultural policy which results in less government investment in and attention to the problems of food production in the recipient country? Does food aid contribute to a cheap food policy which depresses farm prices in favor of industrial prices to foster more rapid industrial growth?

Although no research studies have systematically analyzed the relationship between food aid and food policy in the recipient countries, several

studies have analyzed food price levels and agricultural price policy in LDCs. Peterson [1979] has recently estimated the prices received by farmers for output relative to the price of a major input for 53 countries in 1968-70. The results point out that real farm prices are more favorable to farmers in the developed countries than to farmers in the LDCs with a few possible exceptions including South Korea and Pakistan and that farm prices in the top ten countries averaged 3.7 times more than farm prices in the lowest ten. Lutz and Scandizzo [1980] in a study of price distortions in seven developing countries found substantial disincentive effects on food production because of heavy implicit and explicit taxation of the agricultural sector.7/ As a consequence, agricultural production is discouraged, while consumption is subsidized, and the opportunity for more foreign exchange earnings is lost.8/ Three countries (Egypt, Pakistan and Yugoslavia) of the seven in the Lutz and Scandizzo study have each received over $1 billion of P.L. 480 assistance. Thus, it is quite evident that major recipients of P.L. 480 assistance have followed agricultural policies which depress farm prices and discourage farm output. If the supply elasticity in these countries approaches that of some recent estimates, the loss in agricultural output would be substantial. Because of this loss in output, the P.L. 480 imports may have simply substituted for some food production in the recipient country which then suggests that cheap food may not feed the poor in LDCs.

7/ This taxation can be accomplished explicitly through conventional taxing methods but more frequently is accomplished implicitly through over-valued exchange rates, marketing board monopolies, price controls, and import and export taxes.

8/ Larson and Vogel [1980] in a study of price and price policy in Costa Rican agriculture found that government policy resulted in declining real farm prices and stagnation of farm output in the 1970s.

The above concerns have led many researchers and decisionmakers to question the feasibility of tied aid such as food aid and to suggest that capital assistance such as credit would be a more preferred alternative. Schultz [1960, p. 1023] in his pioneering study of the value of U.S. farm surpluses to the recipient countries states that "If these under-developed countries had had a choice of receiving from the United States either dollars or farm products of equivalent value at world prices, they would with few exceptions, have preferred to have the dollars because the dollars would have been worth more to them in achieving economic growth or in serving other purposes that they ranked high among their national goals." Isenman and Singer [1977, p. 208] in a recent analysis of the effects of food aid also argue that "For this reason we favor relatively unrestricted forms of financial aid over food aid, even where there is no danger of a disincentive effect. It would be preferable to let the recipient then choose the balance between food and non-food imports." The issues of the disincentive effects plus the more precarious supply-demand balance for food grains in the 1970s have resulted in a movement away from P.L. 480 assistance to increased financial assistance to the agricultural sector of LDCs.

Cheap Credit

Dwindling U.S. farm surpluses, and perhaps the criticisms of P.L. 480, have led to a shift in emphasis in U.S. policy during the 1970s away from the provision of cheap food and toward programs to encourage agricultural production in LDCs. One of the key elements in the new U.S. strategy has been the provision of cheap credit for farmers in LDCs in an attempt to increase agricultural output. The credit provided has been cheap in the sense that the

interest rates charged to farmers in LDCs are set far below the rates that would be determined by market forces. As shown in Table 4, the Agency for International Development (A.I.D.) and its predecessors provided slightly more than $700 million in loans and grants for agricultural credit projects in LDCs over the period 1950 through 1972. The majority of these resources flowed to Latin America, and the overall flow quickened substantially after the formation of A.I.D. in 1961.

While no comprehensive survey of A.I.D.'s agricultural credit projects has been made since 1973, a summary listing of such projects suggests that the yearly flow of resources for agricultural credit has increased significantly since then. As indicated in Table 4, A.I.D. provided more than $260 million for agricultural credit projects in LDCs from 1974 through 1980, and there was an additional $910 million for projects that included significant agricultural credit components but for which A.I.D.'s summary statistics do not show separately the exact amounts allocated to credit. In the 1974-1980 period grants have increased substantially relative to loans, and there has also been a shift away from Latin American countries which received only about one-third of the resources directed to agricultural credit in this later period. The growth over time in resource transfers must, of course, be discounted somewhat because inflation makes the more recent flows less valuable in real terms than the earlier flows. Nonetheless, the increased yearly flows of resources for agricultural credit projects indicate the increased emphasis of U.S. policy on promoting agricultural production in LDCs through the provision of cheap credit.9/

9/ The World Bank and other international donor agencies have also followed the U.S. lead and have put substantial amounts into projects involving cheap credit for agriculture.

Table 4: A.I.D. Agricultural Credit Projects
(millions of dollars)

	1950-1972	1974-1980	1974-1980[a/]
Grants	69.5	90.0	344.4
Loans	636.9	131.0	263.9
Grants and Loans Not Separated		45.8	331.7
Total	706.4	266.8	910.0

a/ Additional projects containing an agricultural credit component for which amounts allocated to agricultural credit are not shown separately in A.I.D. summary statistics.

Source: A.I.D., History of A.I.D. Programs in Agricultural Credit, Spring Review of Small Farmer Credit, Vol. XVIII, Washington D.C., June 1973; and A.I.D., Summary Computer Listing of Agricultural Credit Projects, June 1981.

Given the shift in U.S. policy toward encouraging agricultural output in developing countries, it is interesting to consider some of the reasons that cheap credit has come to play a key role in attempting to achieve this objective. Cheap food under P.L. 480 has been criticized because it is tied aid; that is, specific commodities are provided which are almost certain to be less valuable to an LDC than an equal amount of purchasing power that could be spent on whatever imports the LDC might prefer. The transfer of foreign exchange from the U.S. which allows LDCs to expand credit for agriculture while importing whatever commodities happen to coincide with the credit expansion thus appears to be an ideal way to promote agricultural output in LDCs at minimum cost. This approach is reinforced by the view that the U.S. is a country with abundant capital potentially available for transfer abroad and that such capital can easily be injected into the rural financial markets of LDCs.

The relatively straightforward idea that credit projects can allow LDCs to deploy more resources to increase agricultural output becomes considerably more complicated when coupled with the belief that credit must be cheap and must be targeted to specific activities and to specific groups. In spite of the appeal of credit because it is not tied aid, in contrast to food aid under P.L. 480, the view is widely held that credit is some sort of input, like seeds or fertilizer, that can be targeted to the production of specific crops. Such credit, it is said, must be cheap to overcome the many obstacles to increased production that confront farmers in LDCs.10/ One of the main obstacles is thought to be the farmers themselves, especially the small traditional

10/ In a study of Costa Rica, Larson and Vogel (1980) found that adverse government price policies for agricultural products can be an important obstacle that cheap credit policies attempt to overcome.

farmers, who will only be willing and able to adopt new technologies and purchase the necessary modern inputs if they are provided cheap credit, that is, at subsidized rates of interest below market rates. The implication that cheap credit should therefore be targeted to small farmers coincides with the additional objective of redistributing income to the rural poor. It is thus argued that cheap credit can simultaneously modernize traditional agriculture, increase the production of designated crops, and make the distribution of income less unequal in LDCs.

There are, of course, alternative approaches to modernizing agriculture, increasing production and redistributing income in LDCs, such as improved agricultural research and extension services, better rural infrastructure, or improved prices and marketing facilities for agricultural inputs and outputs. Projects involving cheap credit for agriculture may, however, have particular appeal for A.I.D. officials and for government officials in recipient countries. Career advancement in donor agencies may depend in part on disbursing large amounts of money as rapidly as possible, so that A.I.D. officials would prefer to avoid the delays and complexities of attempting to resuscitate a moribund research and extension service, planning and building rural infrastructure, or becoming involved in the political controversies surrounding agricultural price policies and the roles of marketing intermediaries. Such preferences are likely to be shared by government officials in recipient countries who would like to receive needed foreign exchange as quickly as possible and avoid the problems and delays involved in implementing complex projects or confronting powerful interest groups.

Expediency may help to explain the popularity of projects that focus on cheap credit for agriculture, but such a criticism does not provide the basis

for an adequate evaluation. The basic issues are whether cheap credit can achieve the objectives of promoting agricultural production and modernization and improving income distribution in LDCs and whether such projects may have undesirable side effects. Cheap credit projects are based on the assumption that credit can be targeted not only to agriculture in general but also to specific crops and technologies as well as to small farmers. However, as Von Pischke and Adams (1980) among others have emphasized, one of the main properties of credit is fungibility. In fact, as already pointed out, this fungibility is a major attraction of agricultural credit projects in contrast to tied food aid. Because credit provides general command over resources, it cannot readily be tied to the production of particular crops, the adoption of particular technologies, or the purchase of particular inputs.

Credit, even cheap credit, does not change the prices of outputs, the availability of inputs, or the knowledge that farmers may have of new technologies. Credit simply provides farmers with the ability to acquire additional resources to apply to whatever activities seem most attractive to these farmers. Diversion of credit by farmers to other than the specified activities has been found to be widespread whenever audits of credit use have been carried out.11/ More pervasive and difficult to detect than outright diversion is the case in which the farmer presents the lender with his most attractive undertaking, one which would be carried out even if a loan were not received, and then uses the additional resources obtained with the loan for some unspecified activfty. These alternative activities may even be outside the agricultural sector or may be viewed by the lender as consumption rather

11/ The results of these audits are rarely published because they are usually carried out on a confidential basis by international lending institutions.

than production if the fact is neglected that the farm family must continue to subsist while waiting for the harvest.

In many cheap credit projects considerable attention is paid to supervision. Supervision is said to be necessary to provide information to farmers about the optimal technologies to be used and crops to be grown. This is likely to be worthwhile if the crops and technologies are in fact appropriate for the situation of the small farmer and are not based exclusively on the world of the agricultural experiment station. However, supervision more often means attempting to insure that farmers carry out the specified activities, allegedly so that lenders will be repaid, but primarily because lenders believe that farmers are irrational and untrustworthy and thus need to be told what to do and then forced to do it. One problem with this approach is that such supervision has little to do with repayment, which is more a function of lenders' efficiency in selecting among potential borrowers and providing good service to those borrowers (see Vogel, 1981). Because of fungibility, supervision is unlikely to direct additional resources to the specified activities and is likely, moreover, to be more costly than appears at first sight. Besides the substantial costs that supervision imposes on the lender, and also on the borrower as discussed below, responsibility for supervision may take away the best human resources that are potentially available to the agricultural extension service. Such supervision may also create a suspicious and counterproductive relationship between farmers and field agents and may lead to bribery if it is worthwhile to both parties.

Supervision in particular and high transactions costs in general often arise because agricultural credit is priced too low. In cheap credit projects, interest rates are set far below market levels, often even below the

rate of inflation, which implies a substantial excess demand for this heavily subsidized credit. The excess demand forces lenders to ration credit and encourages borrowers to bid for this credit in ways that circumvent the established low interest rates. An obvious way of bidding is through bribery, but a more honest way, although more costly to society in the use of scarce resources, is through increased transactions costs. Lenders require borrowers to prepare elaborate investment plans and follow these up with costly supervision, even though such requirements have little to do with how the resources are used or whether the lender is repaid. Borrowers are willing to accept the costs of supervision and the preparation of investment plans as long as these and other transactions costs are below the interest rates and transactions costs that would have to be paid to obtain credit in alternative markets (e.g., from moneylenders). Small farmers will be the first to lose access to cheap credit, not because lenders refuse to give them loans, but rather because high fixed transactions costs make it unattractive even to apply for small loans (see Adams and Nehman, 1979). The failure of small farmers to be interested in supposedly cheap credit is often taken as evidence that small farmers are irrational, overly risk averse and unable to understand the attractions of new crops and new technologies.

Loan guarantees are another important component of high transactions costs for borrowers. Even though guarantees often prove of little use in collecting overdue loans, they are normally required by lenders and can serve to drive away borrowers that lenders consider undesirable (see Vogel, 1981). Guarantees can be costly to arrange in terms of time as well as money, so that many potential borrowers such as small farmers do not find it worthwhile to incur the high fixed transactions costs often required to apply for even a

small loan. Legal fees to arrange guarantees may often seem unnecessarily high, especially when the borrower uses the same lawyer as the lender, but such fees can be worthwhile to the borrower if they insure a large loan at a low rate of interest. If land and cattle are the collateral preferred by lenders, borrowers will be encouraged to bid up the prices on land and cattle until they offset the low interest rates on cheap credit. Sponsors of cheap credit proects are often concerned about stringent guarantee requirements and other components of high transactions costs and provide ample technical assistance to deal with these problems. However, the situation rarely improves because the cheap credit itself creates incentives to keep guarantees strict and transactions costs high in order to ration the excess demand for credit.

Another important aspect of the rationing systems that typically develops to deal with the excess demand for cheap credit is a limit on the amount of credit that can be obtained to finance each specific commodity. If there were no such limits, farmers would have an incentive to ask for an unlimited amount to plant one acre of rice or purchase one cow in order to obtain as much of the credit subsidy as possible. To determine plausible credit limits, the usual procedure is to undertake studies of production costs for various commodities, and to make judgment as to what percentage of these costs should be financed (see Vogel and Larson, 1980). However, such studies can be complicated and expensive to carry out and can yield highly uncertain results, especially when there are large numbers of different commodities produced in different regions using different technologies. Such uncertainty means that some commodities will be under-financed and others over-financed, but more importantly that many will not be financed at all. When a lender is

confronted with a loan application for some commodity for which production costs, and hence credit limits, have not been officially established, it is unlikely that the lender will be willing to undertake the necessary studies, especially when there is excess demand for cheap credit for established commodities. Since an important function of a financial system is to channel resources to new commodities, new technologies and new regions, credit rationing involving such limits can be a significant factor retarding innovation in agriculture.

As already indicated, an important objective of projects involving cheap credit for agriculture is to redistribute income toward small farmers and the rural poor. However, the foregoing discussion has emphasized that high transactions costs and other devices which arise to ration cheap credit are likely to bear most heavily on small farmers. In many agricultural credit projects, moreover, lenders are required to charge lower rates of interest for small farmers than the rates established for other classes of agricultural borrowers and this can provide a strong incentive for lenders not to serve small farmers. The available evidence substantiates that the vast majority of small farmers and other rural poor in LDCs receive no cheap credit and hence none of the credit subsidy (see Gonzalez-Vega, 1981). Among those who receive cheap credit, there is a high concentration of large loans to relatively wealthy borrowers, and in one case studied intensively the concentration of credit is even greater than the concentration of land holdings or income distribution (see Vogel, 1977). These favored recipients of cheap credit benefit not only from the subsidy component, which is often substantial, but also from more rapid income growth based on access to credit, a benefit which can be even

more substantial if investments with significant rates of return are available (see Gonzalez-Vega, 1981).

It is often argued that state-owned development banks will not ration credit in the ways described above because they are not profit oriented. However, the continuing existence of these lending institutions is necessarily contingent on profits and losses. Lending costs, interest income, and delinquency rates cannot be ignored if state-owned development banks are to have funds to lend beyond the initial injection of funds from their government or some international donor. Moreover, governments and international donors often impose performance criteria on these lenders, such as preservation of capital and control of delinquency, which are essentially profit maximizing criteria. It is also important to ask what motivates the behavior of employees of state-owned development banks. Unfortunately, little research has been carried out on such behavior, but salary and related benefits are almost certain to be important for these employees. Unless proponents of cheap credit through state-owned development banks can develop alternative performance criteria and implement such criteria through specific incentives to employees, statements that state-owned development banks behave differently from profit-maximizing commercial banks cannot be taken seriously. It has only recently come to be recognized that small farmers do not behave irrationally and it now needs to be recognized that bank employees are likewise aware of and interested in their own welfare.

The foregoing discussion strongly suggests that projects based on cheap credit for agriculture in LDCs have not achieved their main objectives of modernizing agriculture, increasing output and redistributing income to the rural poor. The evaluation of cheap credit projects must also take into

account the possibility of undesirable side effects, such as the problems created for the functioning of the agricultural extension service discussed above. Perhaps the most pernicious side effect is that financial institutions lose any incentives to mobilize voluntary savings in their own countries (see Vogel, 1981). When cheap resources are available from international donors, governments and central banks, financial institutions are discouraged from paying the interest rates and providing the services necessary to attract deposits, even though there is widespread evidence of substantial savings potential in LDCs (see Adams, 1978). Furthermore, the requirement that credit be cheap makes it difficult for financial institutions to lend profitably any deposits mobilized domestically. The bias against mobilizing voluntary savings places a particular burden on the rural poor in LDCs. Even with this bias, the number of small deposit accounts at typical financial institutions in LDCs vastly exceeds the number of loans. The poor must hold some liquid reserves in order to meet emergencies, while the nonpoor usually have the options of investing in real assets, indulging in capital flight or otherwise avoiding the restrictions that keep interest rates low on deposits. The rural poor are likely to gain more from improved savings opportunities than they have from any cheap credit project yet devised.

The failure to mobilize voluntary domestic savings also adversely affects the viability of financial institutions in LDCs (see Bourne and Graham, 1981). These institutions forego important information about the savings behavior of potential borrowers, information that can be vital in judging probable repayment performance. Depending for funds on the changing tastes of international donors and governments, even when these donors and governments are generous, presents a continuing cycle of feast and famine resulting from the

inevitable delays even in simple follow-on projects. Such cycles diminish the image of these institutions as good credit sources, thereby reducing incentives for borrowers to repay in order to maintain a good credit rating. When more cheap credit is available from governments and donors, financial institutions may lose interest in pursuing delinquent borrowers, and this leads governments and donors to impose the kinds of performance criteria discussed above.

Cheap credit together with government directives to allocate credit to specified activities in the agricultural sector give policymakers the mistaken impression that they are achieving certain production and income distribution objectives (Vogel and Larson, 1980). Because of the subsidy component, borrowers have an incentive to acquire cheap credit. Because credit is fungible as explained above, borrowers and lenders will generally be able to report that credit was allocated according to the government's directives regardless of how borrowers actually used the additional resources acquired with the credit. The government's directives thus create information for policymakers about credit use, and hence resource allocation, that is likely to be highly misleading. If government policymakers believe that they are promoting specified activities in the agricultural sector through cheap credit when they are not, they may be led to neglect basic problems such as the agricultural research and extension service, rural infrastructure or the prices and markets for agricultural inputs and outputs.

Conclusions

Improving the welfare of the poor in LDCs has been an important objective of U.S. foreign policy and a key element in this policy has been adequate and

low cost food supplies. Since the 1950s, cheap food and cheap credit have successively been the primary instruments in the attempt to increase food supplies and reduce poverty in LDCs. However, neither cheap food nor cheap credit has been found to be successful in achieving U.S. policy objectives and both appear to have had harmful side effects on recipient countries.

Perhaps no foreign assistance legislation has generated as much debate as P.L. 480 even though food aid appears to be an obvious way to feed the poor in LDCs. Criticism began shortly after P.L. 480 was passed in 1954 because the primary emphasis seems in fact to have been the disposal of large U.S. agricultural surpluses rather than any great concern over feeding the poor in LDCs. Although the act was later amended to increase emphasis on assistance to those countries which are determined to expand their own food production, P.L. 480 has continued to be an important outlet for U.S. farm products, especially wheat.

While P.L. 480 provides additional food for the LDCs in the short run, the longer run impact of cheap food on incentives for food production in LDCs was not adequately considered. The long run harmful effects of cheap food consist not only in lower farm prices, and hence reduced incentives to produce food in LDCs, but also in support for government policies in LDCs that discourage agricultural development. Earlier research results suggested that lower food prices would not lower aggregate farm output significantly because farmers were not responsive to price changes and at worst would only shift production away from the type of crops provided under P.L. 480. However, lower food prices have recently been found to have a much larger depressing effect on aggregate farm production in LDCs. In addition, cheap food supports government policies toward agriculture in many LDCs that depress farm prices,

discourage farm output and tax agriculture to favor industrial growth. Besides the adverse direct and indirect effects of cheap food on agricultural production, cheap food may also have reduced the income of the numerous rural poor in LDCs who produce the types of crops supplied under P.L. 480.

The shift in U.S. policy toward encouraging agricultural production in LDCs has placed particular emphasis on providing cheap credit to farmers as a means of increasing output while also redistributing income to the rural poor. This new strategy assumes that credit can be targeted to agriculture and within agriculture to specific commodities, modern technologies and poor farmers. However, cheap credit fails to accomplish these objectives because a main property of credit is fungibility. Because credit provides general command over resources, it cannot readily be tied to the production of specified commodities, the adoption of particular technologies or to low income farmers. Use of credit for other than the specified activities has been found to be widespread even though lenders have supervised credit use in an attempt to insure that farmers carry out the specified activities.

Low, subsidized rates of interest on credit result in an excess demand for cheap credit which must be rationed among the potential borrowers. Excessive supervision, stringent loan guarantees, and other requirements imposed on borrowers result in high transaction costs which have evolved into the primary rationing device for cheap credit. These high transaction costs bear most heavily on small borrowers with the result that the vast majority of small farmers receive no cheap credit and hence no credit subsidy. The evidence from various LDCs also indicates that credit rationing results in the concentration of cheap credit in large loans to relatively wealthy borrowers with further perverse implications for income distribution. In addition to

the failure to achieve the policy objectives, cheap credit has various undesirable side effects such as credit limits for different commodites which discourage innovation in agriculture and the misdirected supervision which undermines the agricultural extension service. The most important undesirable side effect is the incentive for financial institutions in LDCs not to mobilize voluntary domestic savings which is not only especially biased against the rural poor but also threaten the long run viability of financial institutions and encourages their dependency on governments and international donors.

The failure of cheap food and cheap credit policies to help feed the poor in LDCs should cause policymakers to search for other approaches to this problem. However, cheap food and cheap credit often seem to be achieving their objectives. It is continually argued that cheap food from the U.S. must expand the availability of food for the poor in LDCs, which seems plausible until the long run effects are considered. Cheap credit always seems to be allocated according to government targets until the overriding importance of credit rationing and fungibility is recognized. The illusion that something is being done for agriculture and for the poor in LDCs often distracts policymakers from attacking more difficult and more basic problems such as improving the agricultural research and extension service, building better rural infrastructures, and dealing with agricultural price policies and marketing facilities.

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